

**REMARKS**

The outstanding issues in the instant application are as follows:

- Claims 1, 5, 8, 11, 15-18, 26, 34, 39, 42, 46 and 48 are rejected under 35 U.S.C. § 102(e).
- Claims 2-4, 6-7, 9-10, 12-14, 19-25, 27-33, 35-38, 40-41, 43-45, and 47 are rejected under 35 U.S.C. § 103(a).

Applicants hereby traverses the outstanding rejections, and requests reconsideration and withdrawal in light of the amendments and remarks contained herein. Claim 5 has been canceled. Claims 1-4, and 6-48 are pending in this application.

**AMENDMENTS**

Claim 1 was amended to include “a filter network coupled to said input interface, wherein said filter network utilizes one or more low order filters.” Claims 4-6, and 8 were amended to reflect the inclusion of a filter network in Claim 1. Claim 5 was amended to include a further limitation of the filter network. Support for these amendments can be found in the Specification, for example, in paragraphs [0031] – [0032] and FIGURE 2B.

Claim 17 was amended to include “a filter network utilizing one or more low order filters; and an image reject mixer coupled to said filter network ....” Claims 19-20 were amended to reflect the inclusion of a filter network in Claim 17. Support for these amendments can be found in the Specification, for example, in paragraphs [0031] – [0032] and FIGURE 2B. No new matter was added.

Claim 29 was amended to include the step of “filtering said signal stream with a filter network utilizing one or more low order filters.” Claim 32 was amended to reflect the inclusion of the filtering step in Claim 29. Claim 31 was amended to include a further limitation of the filtering step. Support for these amendments can be found in the Specification, for example, in paragraphs [0031] – [0032] and FIGURE 2B.

Claim 34 was amended to modify the step of “filtering said signal stream with one or more low order filters, said filtering to provide relatively coarse filtering of said application signal.” Support for this amendment can be found in the Specification, for example, in paragraphs [0031] – [0032] and FIGURE 2B. No new matter was added.

Claim 39 was amended to include “filtering said signal stream using one or more low order filters.” Claim 40 was amended to reflect the inclusion of a filtering step in Claim 39. Support for these amendments can be found in the Specification, for example, in paragraphs [0031] – [0032] and FIGURE 2B. No new matter was added.

Claim 46 was amended to modify the step of “filtering said signal stream utilizing one or more low order filters to provide approximately 20 dB of filtering of said forward application terminal.” Support for this amendment can be found in the Specification, for example, in paragraphs [0031] – [0032] and FIGURE 2B. No new matter was added.

#### **REJECTIONS 35 U.S.C. § 102(e)**

Claims 1, 8, 11, 15-18, 26, 34, 39, 42, 46, and 48 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,625,222 to Bertonis et al, (hereinafter *Bertonis*). Applicants respectfully traverse the rejection and assert that the claims are allowable, at least, for the reasons stated below.

In order for a claim to properly stand rejected under 35 U.S.C. § 102, the reference must teach every element of the claimed invention. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” M.P.E.P. § 2131, citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the ... claim.” M.P.E.P. § 2131, citing *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989).

#### **A. *Rejection of Claims 1, 8, 11, 15-18, 26, 34, 39, 42, 46, and 48 as Anticipated by Bertonis***

Independent claims 1 and 17 as amended each claim an image reject mixer and a “filter network utiliz[ing] one or more low order filters.” *Bertonis* does not teach a “filter

network utiliz[ing] one or more low order filters.” *Bertonis* teaches the use of “the RF filter 99” in conjunction with the image reject mixer 105 as shown in Figure 8. *See Bertonis* at col. 9 line 44 – col. 10 line 15. *Bertonis* does not teach or suggest that RF filter 99 utilizes low order filters. Similarly, *Bertonis* does not teach or suggest that any other filters shown in Figure 8 such as filters 93, 94, 97, or 104 utilize low order filters. Thus, *Bertonis* does not teach each and every element of independent claims 1 or 17.

Similarly, independent claims 34, 39, and 46, as amended, each claim filtering the signal stream using one or more low order filters. As discussed above *Bertonis* does not teach a filter network that utilizes low order filters. Thus, *Bertonis* does not teach each and every element of independent claims 34, 39, or 46.

Claims 8, 11, 15-16, 18, 26, 42, and 48 each depend either directly or indirectly from independent claim 1, 17, 39, or 46 and are, thus, likewise allowable at least based on their dependency from claim 1 or 17 for the reasons discussed above. Accordingly, Applicants respectfully request that the rejection of claims 8, 11, 15-16, 18, 26, 42, and 48 also be withdrawn.

***B. Other Comments in Final Office Action***

In addressing the Applicants’ previous arguments, the Final Office Action noted “that Applicants independent claims are extremely vague in nature and Applicants admitted prior art (i.e. figures 1 and 2) read on Applicants general claim language.” *See* Final Office Action at page 11. Applicants respectfully note that FIGURES 1A and 1B (and not FIGURES 1 and 2) are labeled “prior art” and that neither figure teaches the use of an image reject mixer, claimed prominently in both claim 1 and 17 before and after amendment or the step of mixing using an image reject mixer, claimed prominently in claims 29, 34, 39, and 46 before and after amendment.

Applicants also note that while the Final Office Action has characterized the claims as “vague,” the Final Office Action has not issued any rejection under 35 U.S.C. § 112 and therefore Applicants presume the Final Office Action agrees that the claims meet all of the requirements of § 112.

**REJECTION OF CLAIMS UNDER 35 U.S.C. § 103(a)**

In order to establish obviousness under 35 U.S.C. § 103(a), three criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the references or combine reference teachings. Second, there must be a reasonable expectation of success. Third, the applied art must teach or suggest all the claim limitations. M.P.E.P. § 2143.03. Applicants assert that the rejections do not satisfy these criteria, as discussed below.

**A. *Discussion of Independent Claims in Light of Office Action's Obviousness Arguments Based on Bertonis in view of Rogers***

Due to Applicants' amendment of each of independent claims 1, 17, 29, 34, 39, and 46 to include reference to a filter network utilizing one or more low order filters connected to an image reject mixer, Applicants will address the patentability of these claims in light of the Final Office Action's arguments. The Final Office Action asserts that *Bertonis* in view of *Rogers* teaches a filter network utilizing only first order filters.<sup>1</sup> See Final Office Action at page 6. And, that one of ordinary skill in the art would find it obvious to take *Rogers*' "filter network" and add it to the *Bertonis* circuit including an image reject mixer. Applicants will thus address the applicability of this argument to claims containing the limitation of a filter network or filtering using one or more low order filters coupled to an image reject mixer.

**1. *Lack of Motivation***

Applicants first assert that there is no motivation either in the references or in what each reference suggests to combine *Bertonis* with *Rogers*. The Examiner states that *Rogers* teaches "an image reject *filter* (figure 1) having a filter network (see FILTER figure 1) coupled to said image reject mixer (see MIXER figure 1)." Final Office Action at page 6. (emphasis added.) Applicants assert that this characterization of *Rogers*' teaching is incorrect. *Rogers*' Figure 1 illustrates a prior art superheterodyne receiver having a typical low noise amplifier (LNA), an image reject *filter*, and a mixer. *Rogers*, Col. 1, lns 11-22.

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<sup>1</sup> The Final Office Action "also notes that 'first order' is missing from Applicants specification." Applicants respectfully note that "first order" as well as "low order" are well known terms to those skilled in the art and that the terms correctly describe the teachings of the specification found, for example, in paragraphs [0031] – [0032] and FIGURE 2B. Applicants note that the Final Office Action does not make any rejection under 35 U.S.C. § 112, and Applicants therefore presume that the Final Office Action agrees that the claim language meets the requirements of § 112.

The mixer depicted in Figure 1 of *Rogers* is not described to be an image reject mixer. As *Rogers* explains further in column 1, image reject filters have typically been implemented using more-costly off-chip filters, such as surface acoustic wave (SAW) filters. Col. 1, lns 35-53. *Rogers* explains that on-chip image reject filters have previously not been shown to be effective, so the only effective on-chip image rejection has previously been achieved through image reject *mixers*. Col. 1, lns 61-67. This explanation from *Rogers* is important because *Rogers* teaches that the level of image rejection achieved in image reject mixers is not satisfactory. Col. 1, lns 62-65. Therefore, in lieu of including such image reject mixers in a receiver, *Rogers* teaches the use of an on-chip notch filter added to an LNA or other standard component to perform image rejection. Col. 2, lns 24-30. Thus, one of ordinary skill in the art would not look to *Rogers*, which teaches away from image rejection via an image reject mixer, to take the image reject filter of *Rogers* and combine it with an image reject mixer as arguably described in *Bertonis*. No where in either *Bertonis* or *Rogers* or in what either suggests does it support combining an image reject *filter* with an image reject *mixer*. Applicants therefore respectfully request that the rejections of independent claims 1, 17, 29, 34, 39, and 46 be withdrawn.

***B. Rejection of Claims 2-4, 12-14, 23-24, 27-28, 33, 36-38, 40, and 43-45 over Bertonis in view of Cheah or Applicants's Admittance***

Claims 2-4, 12-14, 23-24, 27-28, 33, 36-38, 40, and 43-45 each depend either directly or indirectly from independent claim 1, 17, 29, 34, and 39 and are thus likewise believed to be allowable at least based on their dependency from claims 1, 17, 29, 34, or 39 for the reasons discussed above with regard to the missing elements from *Bertonis*. Accordingly, Applicants respectfully request that the rejection of claims 2-4, 12-14, 23-24, 27-28, 33, 36-38, 40, and 43-45 also be withdrawn.

***C. Rejection of Claims 6-7, 9-10, 19, 21-22, 25, 30-32, 35, 41, and 47 over Bertonis in view of Rogers***

Claims 6-7, 9-10, 19, 21-22, 25, 30-32, 35, 41, and 47 each depend either directly or indirectly from independent claim 1, 17, 29, 34, 39, or 46, and are thus likewise believed to be allowable at least based on their dependency from claim 1, 17, 29, 34, 39, or 46 for the

reasons discussed above. Accordingly, Applicants respectfully request that the rejection of claims 6-7, 9-10, 19, 21-22, 25, 30-32, 35, 41, and 47 also be withdrawn.

***D. Rejection of Claims 20 over Bertonis in view of Rogers and in further view of Cheah or Applicants' Admittance***

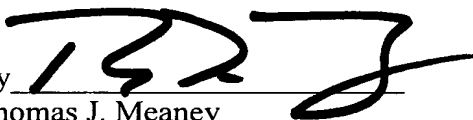
Claim 20 depends indirectly from independent claim 17, and is thus likewise believed to be allowable at least based on their dependency from claim 17 for the reasons discussed above. Accordingly, Applicants respectfully request that the rejection of claim 20 also be withdrawn.

In view of the above, Applicants believe the pending application is in condition for allowance.

Applicants believe no fee is due with this response. The fee required for the Request for Continued Examination is dealt with in the accompanying transmittal. If any additional fees are due, please charge Deposit Account No. 06-2380, under Order No. 49581/P028US/10103789 from which the undersigned is authorized to draw.

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Respectfully submitted,

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